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EXAMINER

OLATUNJI, OLATUNDE O

ART UNIT PAPER NUMBER

2135

DATE MAILED: 11/17/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/623,878

Applicant(s)

REESE ET AL.

Examiner

Olatunde Olatunji

Art Unit

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 21 July 2003.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-58 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-58 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 21 July 2003 is/are: a) ☐ accepted or b) ☒ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. _____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date <u>07/21/2003</u> . | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Claim(s) 1-58 have been presented for examination.

Information Disclosure Statement

The information disclosure statement (IDS) submitted on 07/21/2003 is in compliance with the provisions of 37 CFR 1.97. Accordingly, the examiner is considering the information disclosure statement.

Drawings

The drawings are objected to under 37 CFR 1.83(a) because they fail to show element 104 in Fig. 1 as described in the specification on page 2, ¶ [0015]. Any structural detail that is essential for a proper understanding of the disclosed invention should be shown in the drawing. MPEP § 608.02(d). Corrected drawing sheets in compliance with 37 CFR 1.121(d) are required in reply to the Office action to avoid abandonment of the application. Any amended replacement drawing sheet should include all of the figures appearing on the immediate prior version of the sheet, even if only one figure is being amended. The figure or figure number of an amended drawing should not be labeled as "amended." If a drawing figure is to be canceled, the appropriate figure must be removed from the replacement sheet, and where necessary, the remaining figures must be renumbered and appropriate changes made to the brief description of the several views of the drawings for consistency. Additional replacement sheets may be necessary to show the renumbering of the remaining figures. Each

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drawing sheet submitted after the filing date of an application must be labeled in the top margin as either "Replacement Sheet" or "New Sheet" pursuant to 37 CFR 1.121(d). If the changes are not accepted by the examiner, the applicant will be notified and informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claims 1-5,7,9-15,17,23,25-31,33-35,37,41,43-44 are rejected under 35

U.S.C. 102(b) as being anticipated by Huang et al., U.S. PG. Pub. 2002/0054680

With the respect to claims 1 and 11, Huang reference teaches an image (see page 1, ¶ [0002], "document with image"), wherein the image contains two or more layers of data/metadata encoded in a watermark (see page 1, ¶ [0011] & ¶ [0013], "optical watermark has one or several watermark layers"; *a person of ordinary skill in the art understand the embedded data or latent image object described in each of the watermark layers provides information on the data*).

With the respect to claims 2,9,12,25 and 29, Huang reference teaches the two or more layers of data/metadata -(see page 1, ¶ [0011] & [0013], *embedded data or latent image object in the watermark layers which contains information about the data*) are encoded in a high coding rate watermark -(see page 4, ¶ [0043], "high repetitive frequency").

With the respect to claims 3,10,13,26 and 30, Huang reference teaches the watermark contains two or more sub-watermarks (see page 1, ¶ [0011], *an overlapping watermark sub-layers corresponds to sub-watermarks*),

each sub-watermark of a differing encoding method and/or transform -(see page 2, ¶ [0025], "The structure and orientation of the different watermark layers in an optical watermark must be different from each other").

With the respect to claims 4,14,27 and 31, Huang reference teaches each layer of the two or more layers of metadata -(see page 1, ¶ [0011] & [0013], *embedded data or latent image object in the watermark layers contains information about the data*)

are encoded into a selected sub-watermark -(see page 1, ¶ [0011]; ¶ [0013], "first layer may be a cancellation word ... the second layer may be a logo of the company"; *the sub-watermark are as sub-layers of the overlapping watermark as a whole*).

With the respect to claims 5 and 15, Huang reference teaches the two or more layers of data/metadata -(see page 1, ¶ [0011] & [0013], *embedded data or latent image object in the watermark layers contains information about the data*)

contain one or more data areas -(see Fig. 2 & page 2 ¶ [0027], *each watermark layer is a repetitive structured array of dots (data areas). The latent image objects (data) are embedded into the watermark layer by modulation*; page 1, ¶ [0011], "one or two latent image objects (data) are embedded into each watermark layer").

With the respect to claims 7 and 17 Huang reference teaches the two or more layers of data/metadata of the image -(see page 1, ¶ [0011] & [0013], *embedded data or latent image object in the watermark layers contains information about the data*)

includes at least one of a manufacturer information layer, an object characteristics layer, an order information layer, and a manufacturer-designated layer - (see page 1, ¶ [0013], "The latent image object in the second layer may be a logo of the company"; *a layer with the logo of the company corresponds to a manufacturer information layer*).

With the respect to claim 23, Huang reference teaches a computer-usable medium having computer-readable instructions stored thereon for execution by a processor -(see page 1, ¶ [0002], *electronic document; an electronic document with a watermark would incorporate the use of a computer-usable medium having computer-readable instruction for execution by a processor to execute the steps for watermarking*)

to perform a method comprising: encoding two or more layers of metadata into an image in a watermark -(see page 1, ¶ [0011] & ¶ [0013], "optical watermark has one or several watermark layers"; *The embedded data or latent image object described in each of the watermark layers provides information on the data*).

With the respect to claim 28, Huang reference teaches a method of operating a printer (see page 1, ¶ [0002] & ¶ [0013], "photocopier"), comprising: receiving a print job containing an image and two or more layers of metadata (see page 1, ¶ [0002], "printed document"; ¶ [0010], *printed document with an image that has latent image objects (data) in watermark layers*);

and encoding the two or more layers of metadata into a watermark in an image - (see page 1, ¶ [0011] & ¶ [0013], "optical watermark has one or several watermark layers"; *The embedded data or latent image object described in each of the watermark layers provides information on the data*).

With the respect to claim 33, Huang reference teaches wherein encoding two or more layers of metadata into a watermark in an image (see page 1, ¶ [0011] & ¶ [0013], "optical watermark has one or several watermark layers")

further comprises selecting a subset (see Fig. 1, corresponding layered structure) of the two or more layers of metadata and encoding the subset layers of metadata in the image (see page 1, ¶ [0013], *the first layer having a cancellation word, second layer*

having a logo of the company and the third layer embedded with a logo of a trusted third party; each sub-layer is selected and encoded with exclusive data).

With the respect to claim 34, Huang reference teaches wherein selecting a subset of the two or more layers of metadata and encoding the subset layers of metadata in the image (see page 1, ¶ [0011] & ¶ [0013], "optical watermark has one or several watermark layers")

further comprises printing the subset layers of metadata as text with the image (see page 1, ¶ [0002], "printed document"; *to print the whole document/image is also to print the sequential embedded watermark layers*).

With the respect to claim 35, Huang reference teaches wherein selecting a subset of the two or more layers of metadata and encoding the subset layers of metadata in the image (see page 1, ¶ [0011] & ¶ [0013], "optical watermark has one or several watermark layers")

further comprises selecting the subset of the two or more layers of metadata via user selection of the subset at the printer (see page 1, ¶ [0013], "photocopier"; *the user request of a print from the photocopier would print the first layer that may be a cancellation word, such as "COPY"*).

With the respect to claim 37, Huang reference teaches wherein receiving a print job containing an image (see page 1, ¶ [0002], image) and two or more layers of

metadata (see page 1, ¶ [0011], watermark layers) further comprises receiving and retaining at the printer (see page 1, ¶ [0002] & ¶ [0013]; *a printer which contains internal memory would receives and retains the printed document in the internal memory before printing*)

print job containing an image and two or more layers of metadata (see page 1, ¶ [0002], "printed document"; ¶ [0010], *a printed document containing an image that has embedded latent image objects (data) in watermark layers*).

With the respect to claim 41, Huang reference teaches a method of accessing data encoded in an image (see page 1, ¶ [0011], "a corresponding decoder to observe the latent image object (data) embedded in it"; *Huang teaches a watermark reader/decoder that is exclusively for each layer because of the layers unique structure*), comprising:

decoding a watermark containing two or more layers of data with a reader (see page 1, ¶ [0011], "An optical watermark has one or several watermark layers. One or two latent image objects (data) are embedded into each watermark layer. Each watermark layer has different structure, as well as a corresponding decoder to observe the latent image object (data) embedded in it"; *decoding an overlapping watermark having multiple layers with a unique decoder for each layer*); and selecting a subset of the two or more data layers to view -(see page 1, ¶ [0011], "Each watermark layer has different structure, as well as a corresponding decoder to observe the latent image

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object (data) embedded in it”; *each layer has a different structure, the layer must be selected with its corresponding decoder to be observed*).

With the respect to claim 43, Huang reference teaches wherein decoding a watermark containing two or more layers of data with a reader (see page 1, ¶ [0011], “An optical watermark has one or several watermark layers. One or two latent image objects (data) are embedded into each watermark layer. Each watermark layer has different structure, as well as a corresponding decoder to observe the latent image object (data) embedded in it”; decoding an *overlapping watermark having multiple layers with a unique decoder for each layer*); further comprises

decoding a high coding rate watermark (see page 4, ¶ [0043], “high repetitive frequency”) containing two or more layers of data with a reader (see page 4, ¶ [0043], “objects will not be observed without proper decoders.”; a *watermark encoded in at a high repetitive frequency also requires the decoder to use the same to decode the data*)

With the respect to claim 44, Huang reference teaches wherein decoding a watermark containing two or more layers of data with a reader (see page 1, ¶ [0011], “An optical watermark has one or several watermark layers. One or two latent image objects (data) are embedded into each watermark layer. Each watermark layer has different structure, as well as a corresponding decoder to observe the latent image object (data) embedded in it”; decoding an *overlapping watermark having multiple layers with a unique decoder for each layer*); further comprises

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decoding two or more layers of data from a watermark containing a plurality of sub-watermarks (see Fig. 1, overlapping watermark layer), each sub-watermark encoded with a different encoding method and/or transform. (see page 2, ¶ [0025], "The structure and orientation of the different watermark layers in an optical watermark must be different from each other").

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 6,8-10,16,18-22,24 and 32 are rejected under 35 U.S.C. 103(a) as being unpatentable over Huang et al., U.S. PG. Pub. 2002/0054680 in view of Cox et al., U.S. Patent # 5,915,027

With the respect to claims 6,8,16,18,24 and 32, Huang reference teaches where an image contains two or more layers of data/metadata encoded in a watermark (see page 1, ¶ [0002], "document with image"; page 1, ¶ [0011] & ¶ [0013], "optical watermark has one or several watermark layers"; *The embedded data or latent image object described in each of the watermark layers provides information on the data*).

Huang reference doesn't teach the image contains one or more image objects/sub-images. Cox reference teaches an image that contains one or more sub-

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images (see col. 3, lines 21-28, subimages). It would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains to have modified Huang invention that teaches an image with watermark layers to have sub images like the Cox invention and the sub images would have embedded with watermark layers for the purpose of improving the reliability (see Cox col. 3, line 21).

With the respect to claims 9 and 19, Huang reference teaches the two or more layers of data/metadata -(see page 1, ¶ [0011] & [0013], *embedded data or latent image object in the watermark layers which contains information about the data*)

are encoded in a high coding rate watermark -(see page 4, ¶ [0043], "high repetitive frequency").

With the respect to claims 10 and 20, Huang reference teaches the watermark contains two or more sub-watermarks (see page 1, ¶ [0011], *an overlapping watermark sub-layers equivalent to sub-watermarks*),

each sub-watermark of a differing encoding method and/or transform -(see page 2, ¶ [0025], "The structure and orientation of the different watermark layers in an optical watermark must be different from each other"; *since each layer or sub-layer of the watermark must be unique of each other it would require to have a different encoding of its structure and orientation*).

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With the respect to claim 21, Huang reference teaches each layer of the two or more layers of metadata -(see page 1, ¶ [0011] & [0013], *embedded data or latent image object in the watermark layers contains information about the data*)

are encoded into a selected sub-watermark -(see page 1, ¶ [0011]; ¶ [0013], "first layer may be a cancellation word ... the second layer may be a logo of the company"; *the sub-watermark are as sub-layers of the overlapping watermark as a whole*).

With the respect to claim 22, Huang reference teaches the two or more layers of data/metadata -(see page 1, ¶ [0011] & [0013], *embedded data or latent image object in the watermark layers contains information about the data*)

contain one or more data areas -(see Fig. 2 & page 2 ¶ [0027], each watermark layer is a repetitive structured array of dots (data areas). The latent image objects (data) are embedded into the watermark layer by modulation; page 1, ¶ [0011], "one or two latent image objects (data) are embedded into each watermark layer").

With the respect to claim 42, Huang reference teaches selecting an image having a watermark (see page 1, ¶ [0011]; decoder). Huang reference doesn't teach having an image with an image object having a watermark and selecting the image object. Cox reference teaches an image having an image object (see abstract, sub images). It would have been obvious at the time the invention was made to person having ordinary skill in the art to which said subject matter pertains to have modified the Huang invention to have its image to have sub images with watermarks this combination would

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result in the watermarking sub-images (images within an image) and its decoder able to select the sub images to decode the watermark embedded data for the purpose of improving the reliability (see Cox col. 3, line 21).

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 36 and 45 are rejected under 35 U.S.C. 103(a) as being unpatentable Huang et al., U.S. PG. Pub. 2002/0054680 in view of Iwamoto et al., U.S. Patent No. 6,930,788

With the respect to claim 36, Huang reference teaches wherein selecting a subset of the two or more layers of metadata and encoding the subset layers of metadata in the image (see page 1, ¶ [0011] & ¶ [0013], "optical watermark has one or several watermark layers") and selecting the subset of the two or more layers of metadata (see page 1, ¶ [0013]; *the first layer having a cancellation word, second layer having a logo of the company and the third layer embedded with a logo of a trusted third party, each sub-layer is selected and encoded with exclusive data*). Huang reference doesn't teach selecting the subset of the two or more layers of metadata by entry of a

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PIN and/or a user ID at the printer. Iwamoto reference teaches sending a print job by a user ID (see col. 6, lines 32-35; *print data is assign to a user, through their user ID which must be entered into the printer for purpose of printing*). It would have been obvious at the time the invention was made to person having ordinary skill in the art to which said subject matter pertains to have modified the Huang invention to have required a user ID to be entered to be able track the request for the printed document back to the user.

With the respect to claim 45, Huang reference teaches wherein selecting a subset of the two or more data layers to view -(see page 1, ¶ [0011], "Each watermark layer has different structure, as well as a corresponding decoder to observe the latent image object (data) embedded in it"; *one of the ordinary skill in the art would understand that since each layer haves a different structure, the layer must be selected with its corresponding decoder to be observed*) further comprises

Huang reference doesn't teach using a user ID or PIN through the reader to select a sub layer to view. Iwamoto reference teaches using a user ID through the reader/printer to print/view the image (see col. 6, lines 32-35; *print data is assign to a user, through their user ID which must be entered into the printer for purpose of printing/viewing*). It would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains to have included in Huang invention to have required a user ID to be entered at the decoder to

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select a sub layer to print/view for the purpose to be able track the request of the viewing/printing of the document back to the user.

Claims 38,40,48-51,55-56 and 58 are rejected under 35 U.S.C. 103(a) as being unpatentable Huang et al., U.S. PG. Pub. 2002/0054680 in view of Walton, U.S. Patent No 6,899,475.

With the respect to claim 38, Huang reference teaches wherein receiving a print job containing an image and two or more layers of metadata further comprises receiving a print job containing an image and two or more layers of metadata (see page 1, ¶ [0002], "printed document"; ¶ [0010], *printed document with an image that has latent image objects in watermark layers*),

Huang reference doesn't teach wherein the print job is defined in a page description language (PDL) having at least one raster or vector data section and at least one metadata section. Walton reference teaches the print job is defined in a page description language (PDL) (see abstract, "PDL such as PostScript") having a raster data section (see abstract, "raster") and a metadata section (see abstract, "watermark"). It would have been obvious at the time the invention was made to person having ordinary skill in the art to which said subject matter pertains to have modified the Huang invention to have defined in the print job a page description language having a raster

data section and a metadata section for the purpose of providing instructions to a printer concerning how the image should be printed.

With the respect to claim 40, Walton reference teaches wherein the page description language (PDL) is Postscript (see abstract, "PDL such as PostScript").

With the respect to claim 48, Huang reference teaches a method of defining multiple layers of metadata for a watermark in an image, comprising: associating an image (see page 1, ¶ [0002], image) with two or more layers of metadata (see page 1, ¶ [0011], several watermark layers) in an application (see page 1, ¶ [0013], applications needs); and encoding the image (see page 1, ¶ [0002], image) and two or more layers of metadata (see page 1, ¶ [0011], several watermark layers with embedded data). Huang reference doesn't teach encoding the image into a page description language (PDL) definition. Walton reference teaches encoding the image into a page description language (PDL) definition (see abstract, "watermarking a file which is in a PDL"). It would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains to have modified the Huang invention to have encoded the image and its watermark layers into a page description language definition (PDL) for the purpose of providing instructions to a printer concerning how the image should be printed.

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With the respect to claim 49, Huang & Walton combination teaches wherein encoding the image and two or more layers of metadata into a page description language (PDL) definition further comprises encoding the two or more layers of metadata into a page description language (PDL) definition for a high coding rate watermark (see Huang page 4, ¶ [0043], “high repetitive frequency”)

With the respect to claim 50, Huang & Walton combination teaches wherein encoding the image and two or more layers of metadata into a page description language (PDL) definition further comprises encoding the two or more layers of metadata into a page description language (PDL) definition for a watermark containing a plurality of sub-watermarks (see Huang page 1, ¶ [0011], *an overlapping watermark sub-layers corresponds to sub-watermarks*),

each sub-watermark encoded with a different encoding method and/or transform -(see Huang page 2, ¶ [0025], “The structure and orientation of the different watermark layers in an optical watermark must be different from each other”; *person of ordinary skill in the art understand since each layer or sub-layer of the watermark must be unique of each other and it would require to have a different encoding of its structure and orientation*).

With the respect to claim 51, Huang & Walton combination teaches wherein each layer of the two or more of layers of metadata -(see Huang page 1, ¶ [0011] & [0013],

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embedded data or latent image object in the watermark layers contains information about the data)

are encoded into a separate sub-watermark -(see Huang page 1, ¶ [0011]; ¶ [0013], “first layer may be a cancellation word ... the second layer may be a logo of the company”; *the sub-watermark are as sub-layers of the overlapping watermark as a whole*).

With the respect to claim 55, Huang & Walton combination teaches wherein the page description language (PDL) is Postscript (see Walton abstract, “PDL such as PostScript”).

With the respect to claim 56, Huang & Walton combination teaches wherein encoding the image and two or more layers of metadata into a page description language (PDL) definition further comprises encoding the image and two or more layers of metadata (see Huang page 1, ¶ [0011], watermark layers) into a page description language (PDL) definition (see Walton abstract, “watermarking a file which is in a PDL”), having a raster data section (see Walton abstract, “raster”) and a metadata section (see Walton abstract, “watermark”).

With the respect to claim 58, Huang & Walton combination teaches wherein encoding the image and two or more layers of metadata into a page description language (PDL) further comprises

selecting a subset (see Huang Fig. 1, corresponding layered structure) of the two or more layers of metadata and encoding the subset layers of metadata(see Huang page 1, ¶ [0013], *the first layer having a cancellation word, second layer having a logo of the company and the third layer embedded with a logo of a trusted third party, each sub-layer is selected and encoded with exclusive data*) in the PDL (see Walton abstract, "watermarking a file which is in a PDL").

Claims 39, 52-53 and 57 are rejected under 35 U.S.C. 103(a) as being unpatentable Huang et al., U.S. PG. Pub. 2002/0054680 in view of Walton, U.S. Patent No 6,899,475 and further view of Cox et al., U.S. Patent # 5,915,027.

With the respect to claim 39, Huang & Walton reference teaches wherein receiving a print job containing an image and two or more layers of metadata (see Huang page 1, ¶ [0002], "printed document"; ¶ [0010], *printed document with an image that has latent image objects in watermark layers*), wherein the print job is defined in a page description language (PDL) (see Walton abstract, "PDL such as PostScript") having a raster data section (see Walton abstract, "raster") and a metadata section (see Walton abstract, "watermark") further comprises receiving a print job containing an image and two or more layers of metadata (see Huang page 1, ¶ [0002], "printed document"; ¶ [0010], *printed document with an image that has latent image objects in watermark layers*),

Huang & Walton reference doesn't teach wherein the print job is defined in a page description language (PDL) having one or more image objects, each image object defined with a raster data section and a metadata section. Huang & Walton reference doesn't teach the image contains image objects/sub-images. Cox reference teaches an image that contains sub-images (see Cox col. 3, lines 21-28, sub images). It would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains to have modified Huang & Walton invention to include an image with watermark layers to have sub images like the Cox invention and the sub images would have embedded with watermark layers for the purpose of improving the reliability (see Cox col. 3, line 21). This combination would result in a page description language (PDL) having an image with image objects, each image object defined with a raster data section and a metadata section.

With the respect to claim 52, Huang & Walton combination teaches wherein encoding two or more layers of metadata and image into a page description language (PDL) definition further comprises encoding the two or more layers of metadata into a watermark of one or more image objects of the image. Huang & Walton reference doesn't teach the image contains image objects/sub-images/sub-regions. Cox reference teaches an image that contains sub-images (see Cox col. 3, lines 21-28, sub images). It would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains to have modified Huang & Walton invention to include an image with watermark layers to have sub

images like the Cox invention and the sub images would have embedded with watermark layers for the purpose of improving the reliability (see Cox col. 3, line 21). This combination would result in a page description language (PDL) having an image with sub images.

With the respect to claim 53, Huang & Walton combination teaches wherein associating an image (see Huang page 1, ¶ [0002], image) with two or more layers of metadata (see Huang page 1, ¶ [0011], several watermark layers) in an application (see Huang page 1, ¶ [0013], applications needs) further comprises

Huang & Walton combination doesn't teach associating one or more image objects of the image with two or more layers of metadata. Cox reference teaches associating an image that contains sub-images (see Cox col. 3, lines 21-28, sub images). It would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains to have modified Huang & Walton combination that teaches an image with watermark layers to have sub images like the Cox invention and the sub images would have embedded with watermark layers for the purpose of improving the reliability (see Cox col. 3, line 21). This combination would result in the sub images containing a watermark.

With the respect to claim 57, Huang & Walton combination teaches wherein encoding the image and two or more layers of metadata (see Huang page 1, ¶ [0011], watermark layers) into a page description language (PDL) definition (see Walton

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abstract, "watermarking a file which is in a PDL"), wherein the PDL contains at least one raster data section (see Walton abstract, "raster") and at least one metadata section (see Walton abstract, "watermark") further comprises encoding the image and two or more layers of metadata (see Huang page 1, ¶ [0011], watermark layers) into a page description language (PDL) definition (see Walton abstract, "watermarking a file which is in a PDL"). Huang & Walton combination doesn't teach wherein the PDL contains one or more image objects.

Cox reference teaches an image that contains image objects/sub-images (see Cox col. 3, lines 21-28, sub images). It would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains to have modified Huang & Walton invention to include an image with watermark layers to have sub images like the Cox invention and the sub images would have embedded with watermark layers for the purpose of improving the reliability (see Cox col. 3, line 21). This combination would result in a page description language (PDL) having an image with image objects, each image object defined with a raster data section and a metadata section.

Claim 54 is rejected under 35 U.S.C. 103(a) as being unpatentable Huang et al., U.S. PG. Pub. 2002/0054680 in view of Walton, U.S. Patent No 6,899,475 and further view of Cox et al., U.S. Patent # 5,915,027 and Levy et al., U.S. P.G. Pub. No. 2002/0033844.

With the respect to claim 54, Huang, Walton and Cox combination teaches wherein associating one or more image objects (see Cox col. 3, lines 21-28, sub images) of the image with two or more layers of metadata (see Huang page 1, ¶ [0011], several watermark layers) further comprises associating one or more image objects (see Cox col. 3, lines 21-28, sub images) of the image with two or more layers of metadata (see Huang page 1, ¶ [0011], several watermark layers).

Huang, Walton and Cox combination doesn't teach where the metadata is associated with each image object by selecting the image object and defining the metadata by one of a right click on the image object, selecting a menu item, entering the metadata in a spreadsheet page associated with the selected image object, and defining the metadata for the selected image object in an associated configuration file.

Levy reference teaches where the metadata (see page 3, ¶ [0035], watermark) is associated with each image object (see Fig. 1, element 100, media object) by selecting the image object (see page 3, ¶ [0035], "right clicking the mouse while positioning a cursor over the file icon") and defining the metadata by one of a right click on the image object (see page 3, ¶ [0035], "watermark embedding and reading of media objects By right clicking the mouse while positioning a cursor over the file icon"), selecting a menu item (see Fig. 1, element 104; page 3, ¶ [0035], context menu), entering the metadata in a spreadsheet page (see page 5, ¶ [0063], spreadsheet;) associated with the selected image object (see page 5, ¶ [0063], media objects), and defining the metadata (see page 3, ¶ [0035], watermark) for the selected image object (see page 3,

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¶ [0039], "positioning the cursor over the media object's icon") in an associated configuration file (see page 3, ¶ [0039], user accesses properties). It would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains to have modified Huang, Walton and Cox combination to include the use of right clicking an image object and inserting a watermark layers through a spreadsheet page and defining the metadata in an configuration file for the use in a Window operating System.

Claims 46 and 47 are rejected under 35 U.S.C. 103(a) as being unpatentable Huang et al., U.S. PG. Pub. 2002/0054680 in further view of Epstein U.S. P.G. Pub No. 2003/0159043

With the respect to claim 46, Huang reference teaches information embedded in the selected subset of data layers (see page 1, ¶ [0010], "It embeds multiple latent image objects (data) into layers of repetitive structures to generate a watermark"). Huang reference doesn't teach executing a further process based on information incorporated in the selected subset of data layers. Epstein reference teaches executing a further process (see page 1, ¶ [0012], "copy protection scheme") based on information incorporated in the data (see page 1, ¶ [0012], "watermark may be utilized as part of the copy protection scheme"). It would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains to have modified Huang invention to utilize the ability to execute a copy protection process

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from the embedded data in the watermark layers for the sake of protection from counterfeit and forgery (see Huang page 1, ¶ [0010]).

With the respect to claim 47, Epstein reference teaches wherein executing a further process (see page 1, ¶ [0012], "copy protection scheme") based on information incorporated in the data (see page 1, ¶ [0012], watermark) further comprises

executing a further process to accomplish enabling execution of an application (see page 1, ¶ [0012], "watermark may be utilized as part of the copy protection scheme"; *the copy protection status of electronic document would dictate if the execution of the application would be enable.*; see page 1, ¶ [0011], "desired copy protection status may be "copy-once", "no-more-copy", "copy-never", and "copy-freely".").

Prior Art Made of Record

The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. The following patents and patent applications are cited to further show the state of the art with respect to embedded data layers, such as:

United States Patent No. 7,020,304 to Alattar et al., is cited to show digital watermarking and fingerprinting including synchronization, layering, version control, and compressed embedding.

United States Patent No. 6,011,849 to Orrin, is cited to show encryption-based selection system for steganography.

United States Patent No. 5,991,426 to Cox et al., to show field-based watermark insertion and detection.

United States P.G. Pub. No. 2004/0039914 to Barr et al., to show layered security in digital watermarking.

Conclusion

All claims are rejected.


Any inquiry concerning this communication or earlier communications from the examiner should be directed to Olatunde Olatunji whose telephone number is (571) 270-1020. The examiner can normally be reached on M-TR 7:30-5pm EST & 2nd Friday 7:30-4pm EST.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Kim Vu can be reached on (571) 272-3859. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

O.O.

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11/03/2006


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